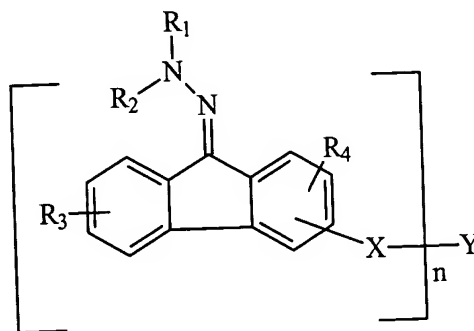


CLAIMS

What is claimed is:

1. An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:
 - (a) a charge transport material having the formula



where n is an integer between 2 and 6, inclusive;

- 10 R_1 and R_2 are, independently, an alkyl group, an alkaryl group, or an aryl group with the proviso that neither R_1 nor R_2 is a naphthyl group, a stilbenyl group, alkylsulfonylphenyl group or a (9H-fluoren-9-ylidene)benzyl group;

- 15 R_3 and R_4 are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

- 20 X is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR_5 group, a CHR_6 group, or a CR_7R_8 group where R_5 , R_6 , R_7 , and R_8 are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and

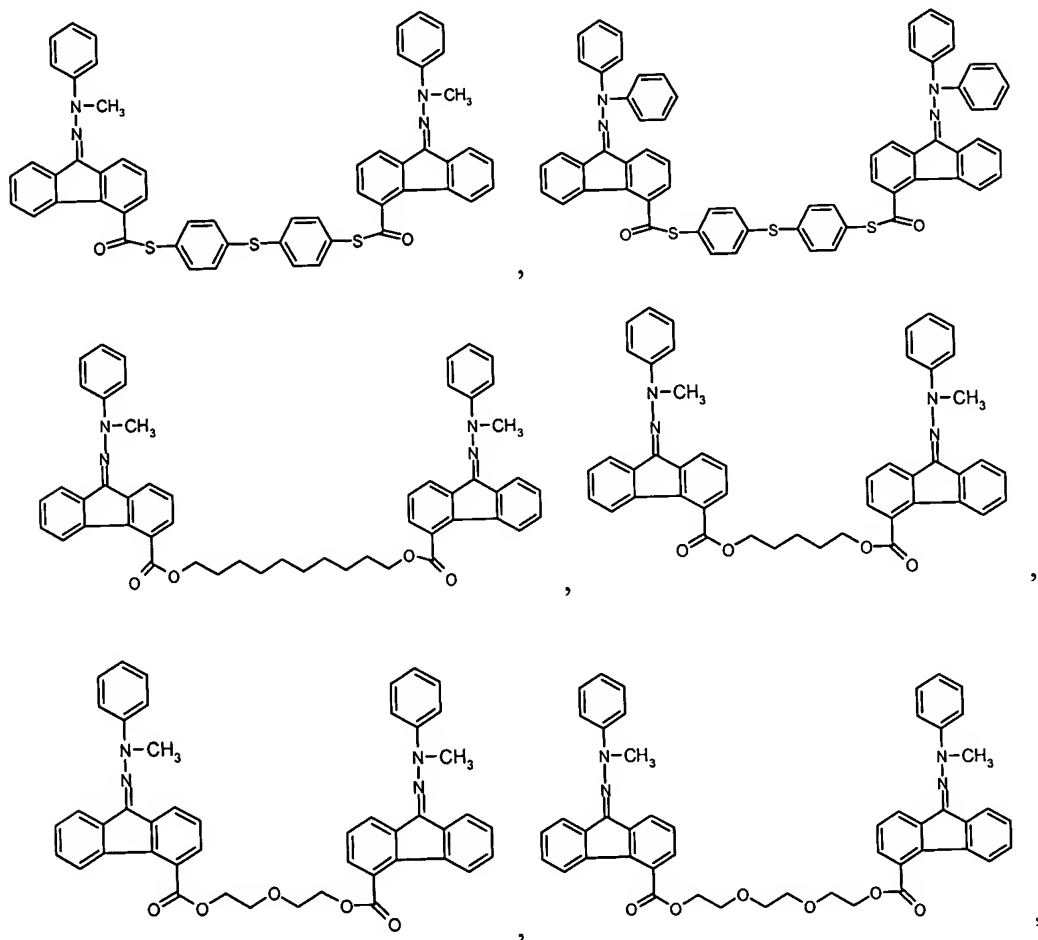
- 25 Y comprises a bond, C, N, O, S, a branched or linear $-(CH_2)_p-$ group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR_9 group where R_9 is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

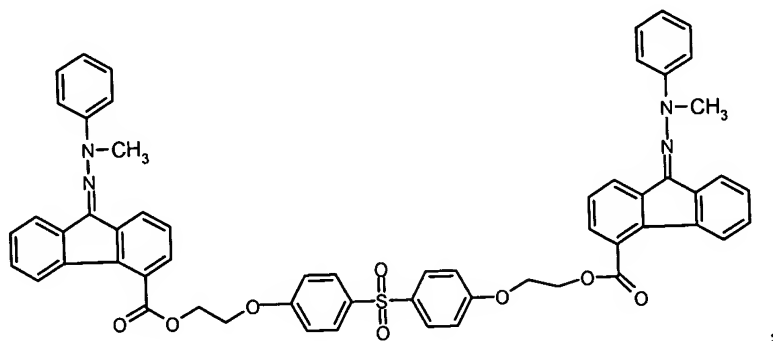
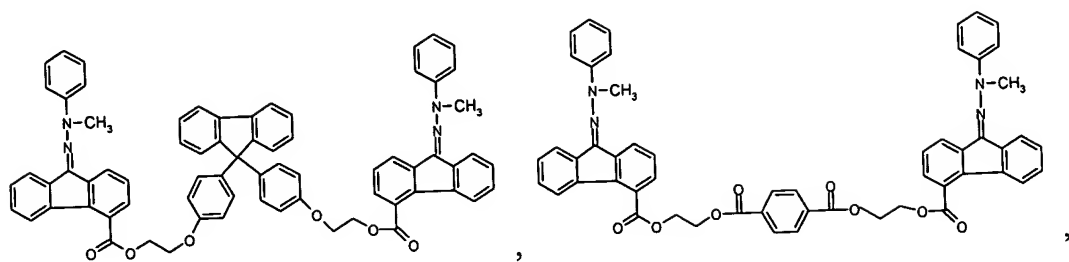
- (b) a charge generating compound.

2. An organophotoreceptor according to claim 1 wherein Y is an aromatic group and X is -S-C(=O)-.

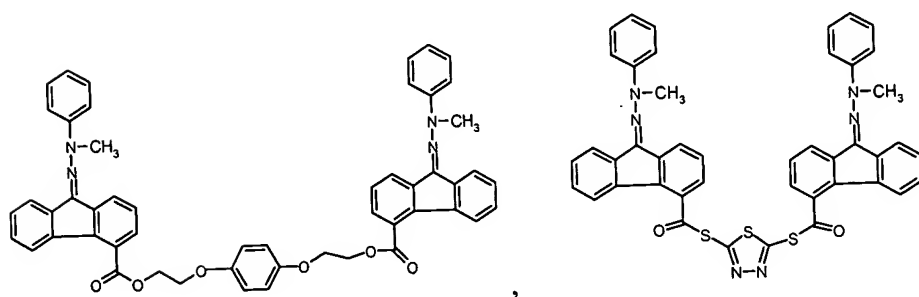
5 3. An organophotoreceptor according to claim 1 wherein Y is a bond, O, S, or CH₂ and X is -(CH₂)_m- group where m is an integer between 0 and 20 and where at least one of the CH₂ groups is replaced by O, S, C=O, O=S=O, an ester group, a heterocyclic group, or an aromatic group.

10 4. An organophotoreceptor according to claim 1 wherein the charge transport material has a formula selected from the group consisting of the following:





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5. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a second charge transport material.

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6. An organophotoreceptor according to claim 5 wherein the second charge transport material comprises a charge transport compound.

7. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a binder.

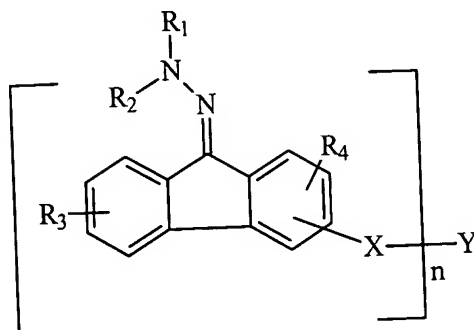
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8. An electrophotographic imaging apparatus comprising:

(a) a light imaging component; and

(b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

- 5 (i) a charge transport material having the formula



where n is an integer between 2 and 6, inclusive;

R₁ and R₂ are, independently, an alkyl group, an alkaryl group, or an aryl group with the proviso that neither R₁ nor R₂ is a naphthyl group, a stilbenyl group, alkylsulfonylphenyl group or a (9H-fluoren-9-ylidene)benzyl group;

R₃ and R₄ are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

15 X is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₅ group, a CHR₆ group, or a CR₇R₈ group where R₅, R₆, R₇, and R₈ are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and

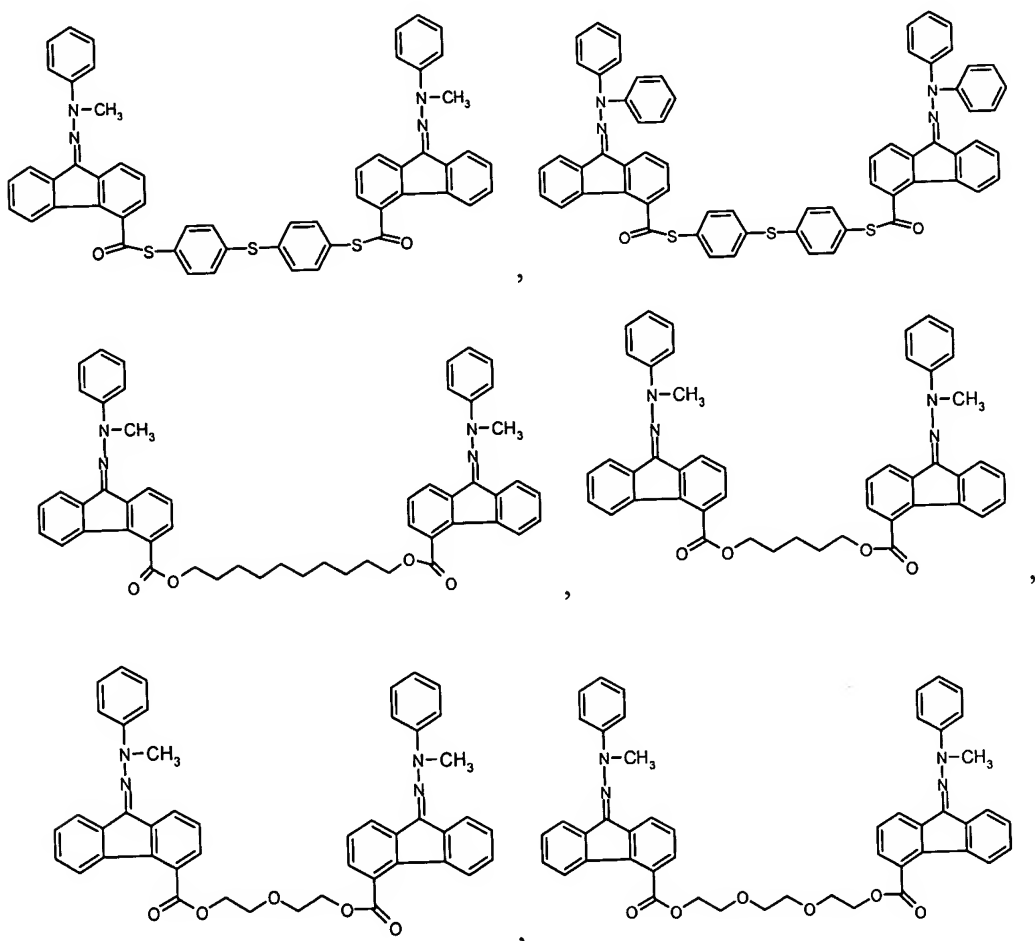
20 Y comprises a bond, C, N, O, S, a branched or linear $-(CH_2)_p-$ group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR₉ group where R₉ is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

- 25 (ii) a charge generating compound.

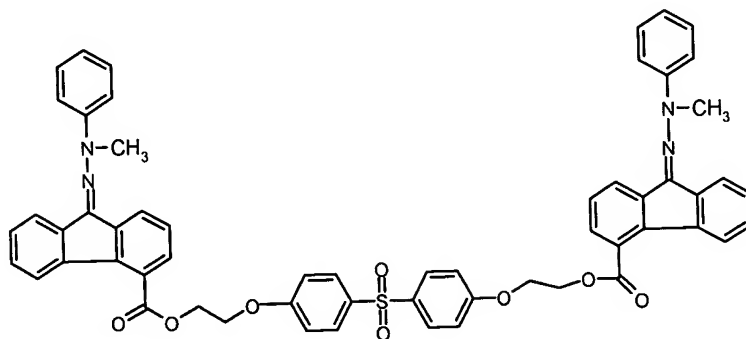
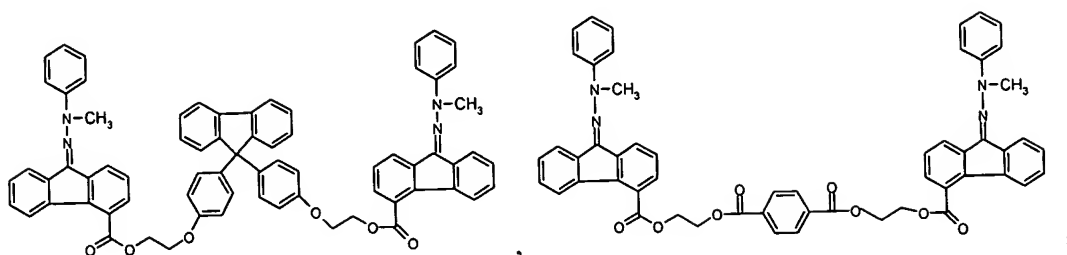
9. An electrophotographic imaging apparatus according to claim 8 wherein Y is an aromatic group and X is -S-C(=O)-.

10. An electrophotographic imaging apparatus according to claim 8 wherein Y is a bond, O, S, or CH₂ and X is -(CH₂)_m- group where m is an integer between 0 and 20 and where at least one of the CH₂ groups is replaced by O, S, C=O, O=S=O, an ester group, a heterocyclic group, or an aromatic group.

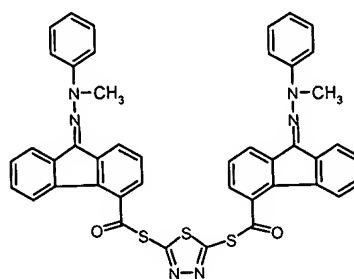
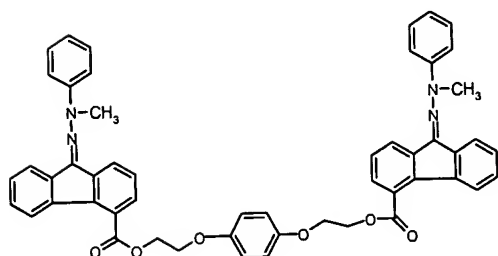
11. An electrophotographic imaging apparatus according to claim 8, wherein the charge transport material has a formula selected from the group consisting of the following:



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12. An electrophotographic imaging apparatus according to claim 8 wherein the photoconductive element further comprises a second charge transport material.

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13. An electrophotographic imaging apparatus according to claim 12 wherein second charge transport material comprises a charge transport compound.

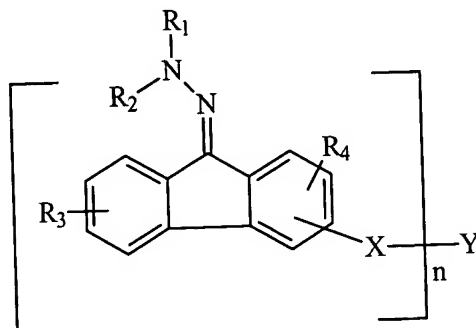
14. An electrophotographic imaging apparatus according to claim 8 further comprising a liquid toner dispenser.

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15. An electrophotographic imaging process comprising;

(a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

(i) a charge transport material having the formula



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where n is an integer between 2 and 6, inclusive;

R₁ and R₂ are, independently, an alkyl group, an alkaryl group, or an aryl group with the proviso that neither R₁ nor R₂ is a naphthyl group, a stilbenyl group, alkylsulfonylphenyl group or a (9H-fluoren-9-ylidene)benzyl group;

10 R₃ and R₄ are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

X is a linking group having the formula -(CH₂)_m-, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₅ group, a CHR₆ group, or a CR₇R₈ group where R₅, R₆, R₇, and R₈ are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and

20 Y comprises a bond, C, N, O, S, a branched or linear -(CH₂)_p- group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or a NR₉ group where R₉ is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups; and

(ii) a charge generating compound.

(b) imagewise exposing the surface of the organophotoreceptor to radiation to dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;

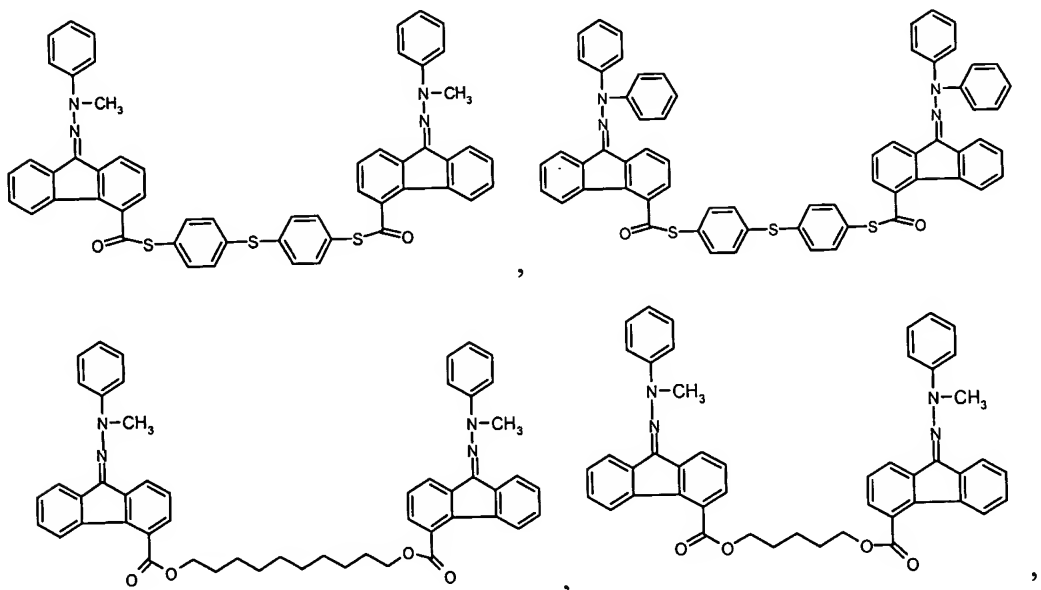
(c) contacting the surface with a toner to create a toned image; and

5 (d) transferring the toned image to substrate.

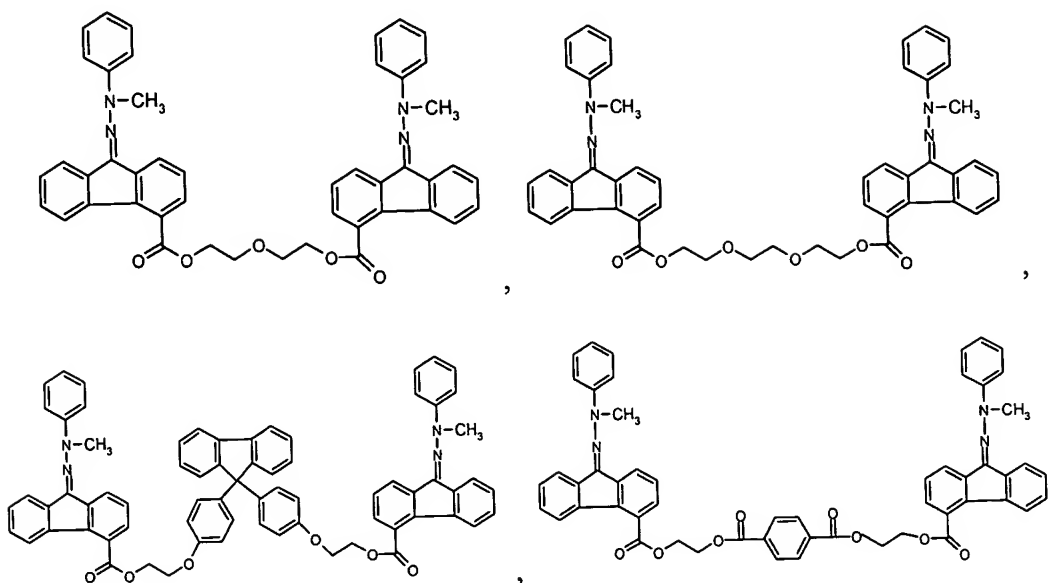
16. An electrophotographic imaging process according to claim 15 wherein Y is an aromatic group and X is $-S-C(=O)-$.

10 17. An electrophotographic imaging process according to claim 15 wherein Y is a bond, O, S, or CH_2 and X is $-(CH_2)_m-$ group where m is an integer between 0 and 20 and where at least one of the CH_2 groups is replaced by O, S, $C=O$, $O=S=O$, an ester group, a heterocyclic group, or an aromatic group.

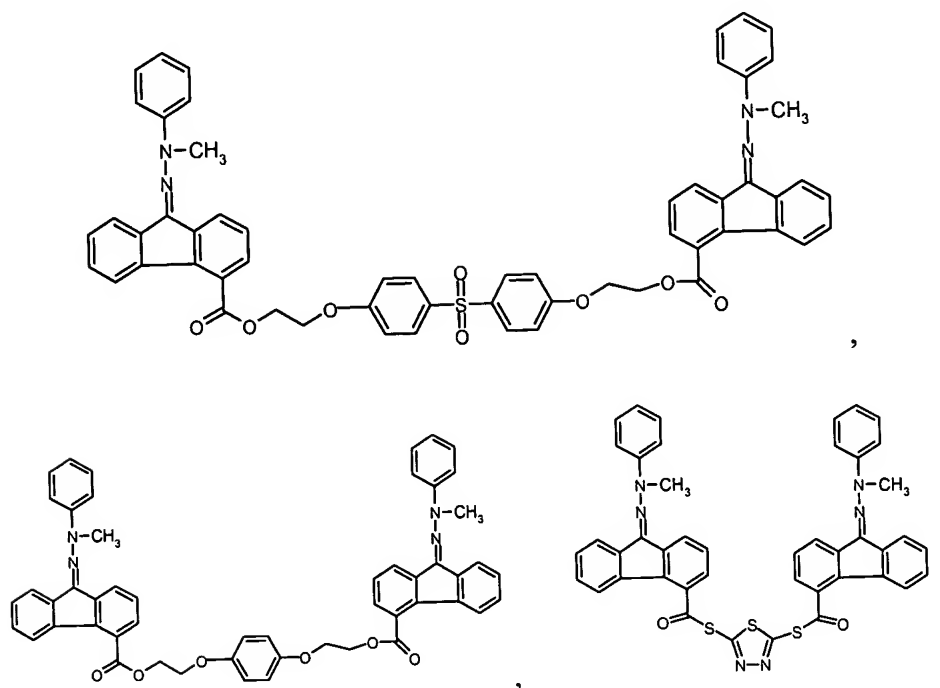
15 18. An electrophotographic imaging process according to claim 15 wherein the charge transport material has a formula selected from the group consisting of the following:



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19. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a second charge transport material.

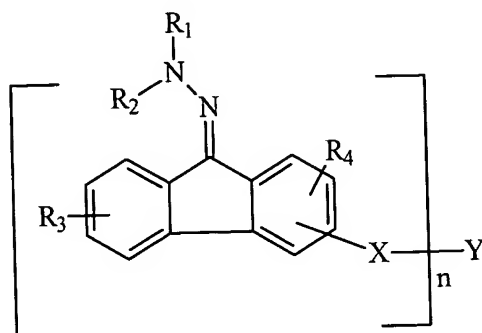
20. An electrophotographic imaging process according to claim 19 wherein the second charge transport material comprises a charge transport compound.

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21. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a binder.

22. An electrophotographic imaging process according to claim 15 wherein the toner comprises a liquid toner comprising a dispersion of colorant particles in an organic liquid.

23. A charge transport material having the formula



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where n is an integer between 2 and 6, inclusive;

R₁ and R₂ are, independently, an alkyl group, an alkaryl group, or an aryl group with the proviso that neither R₁ nor R₂ is a naphthyl group, a stilbenyl group, alkylsulfonylphenyl group or a (9H-fluoren-9-ylidene)benzyl group;

15

R₃ and R₄ are, independently, H, halogen, carboxyl, hydroxyl, thiol, cyano, nitro, aldehyde group, ketone group, an ether group, an ester group, a carbonyl group, an alkyl group, an alkaryl group, or an aryl group;

20

X is a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 0 and 20, inclusive, and one or more of the methylene groups can be optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₅ group, a CHR₆ group, or a CR₇R₈ group where R₅, R₆, R₇, and R₈ are, independently, H, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and

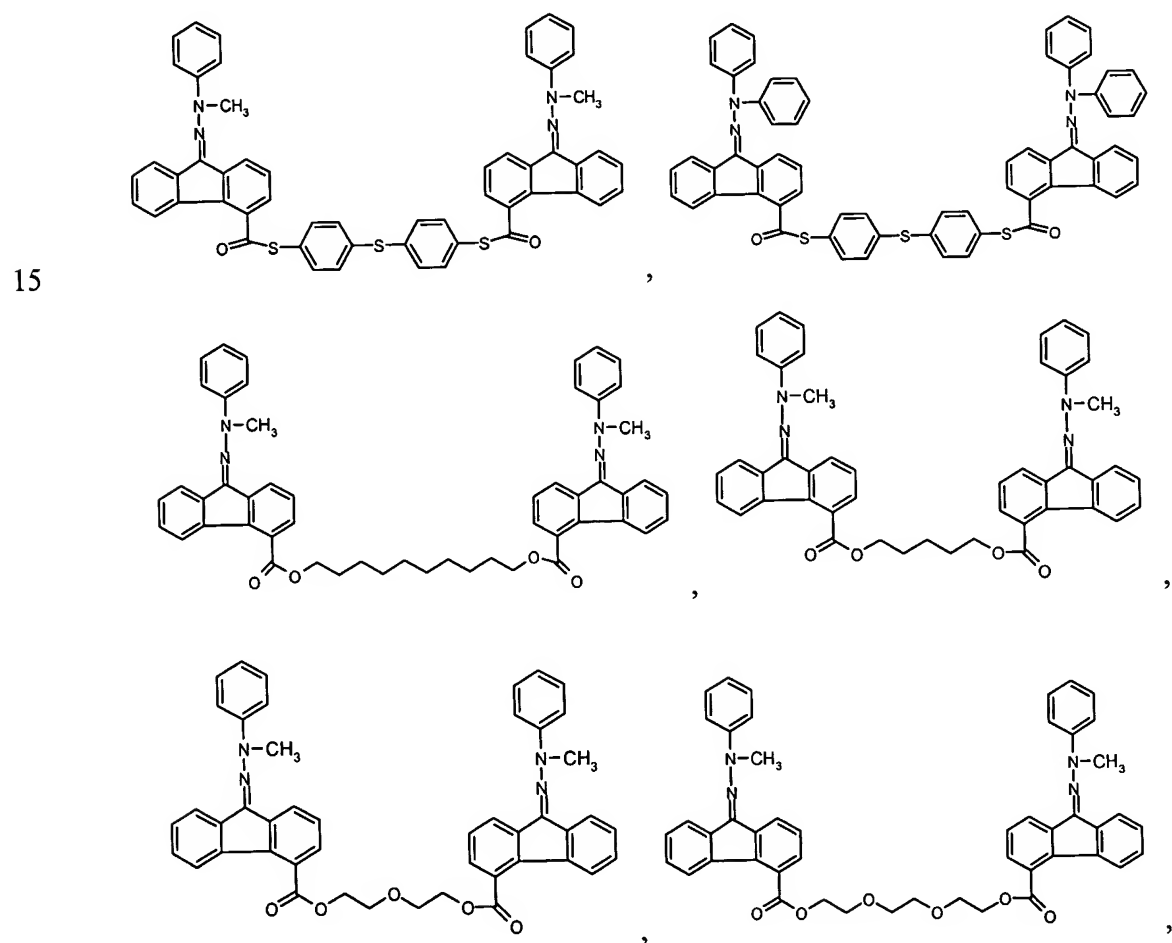
Y comprises a bond, C, N, O, S, a branched or linear $-(CH_2)_p-$ group where p is an integer between 0 and 10, an aromatic group, a cycloalkyl group, a heterocyclic group, or

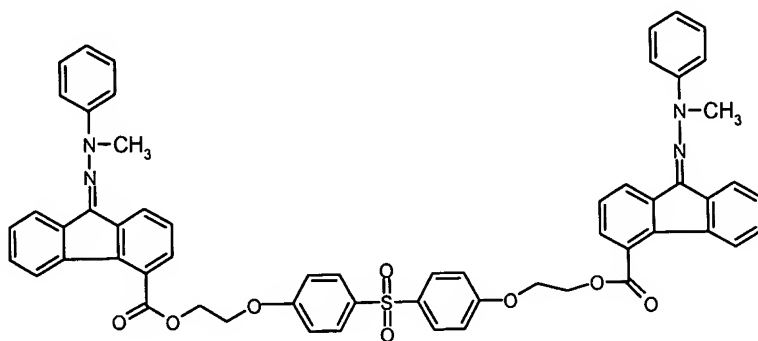
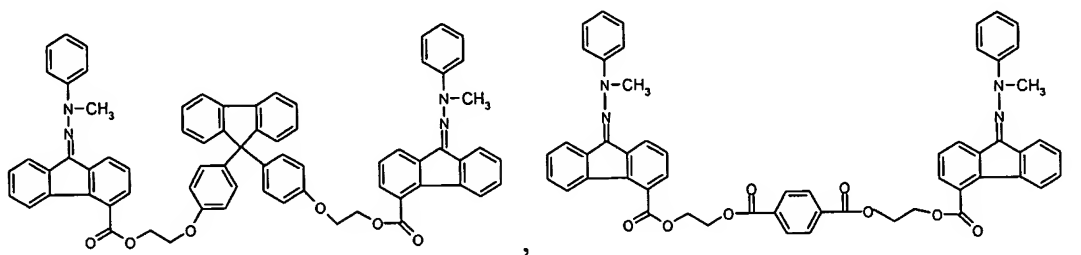
a NR_9 group where R_9 is hydrogen atom, an alkyl group, or aryl group, wherein Y has a structure selected to form n bonds with the corresponding X groups.

24. A charge transport material according to claim 23 wherein Y is an aromatic group and X is $-\text{S}-\text{C}(=\text{O})-$.

25. A charge transport material according to claim 23 wherein Y is a bond, O, S, or CH_2 and X is $-(\text{CH}_2)_m-$ group where m is an integer between 0 and 20 and where at least one of the CH_2 groups is replaced by O, S, $\text{C}=\text{O}$, $\text{O}=\text{S}=\text{O}$, an ester group, a heterocyclic group, or an aromatic group.

26. A charge transport material according to claim 23 wherein the charge transport material has a formula selected from the group consisting of the following:





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